



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,923	03/01/2002	Osamu Taniguchi	020255	7126

23850 7590 07/17/2003

ARMSTRONG, WESTERMAN & HATTORI, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

WILLIAMS, ALEXANDER O

ART UNIT	PAPER NUMBER
----------	--------------

2826

DATE MAILED: 07/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/084,923

Applicant(s)

TANIGUCHI ET AL.

Examiner

Alexander O Williams

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/14/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 7-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2826

Serial Number: 10/084923 Attorney's Docket #: 020255

Filing Date: 3/1/2002; claimed foreign priority to 8/30/2001

Applicant: Taniguchi et al.

Examiner: Alexander Williams

Applicant's election of species of figure 4 (claims 1, 2 and 4 to 6) in Paper # 6, filed 5/14/03, has been acknowledged.

This application contains claims 3, 7 to 10 and 17 to 22 drawn to an invention non-elected without traverse in Paper No. 6.

This application contains claims 11 to 16 and 23 to 29 drawn to an invention non-elected without traverse in Paper No. 4.

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Art Unit: 2826

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The disclosure is objected to because of the following informalities: On page 21, lines 8 and 9, the "Japanese priority application No. 2001-262329 filed on August 30, 2001" is different from the filed Japanese priority application No. 2001-262359 filed on August 30, 2001.

Appropriate correction is required.

The drawings are objected to because figures 1 and 2 should be labeled "Prior Art."

Correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:
A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2 and 4 to 6 are rejected under 35 U.S.C. § 102(e) as being anticipated by Chu et al. (U.S. Patent Application Publication # 2002/0109231 A1).

1. Chu et al. (figures 3 to 7B) specifically figure 3 and 4C show a thin-film circuit substrate, comprising: a semiconductor substrate **20** having a first principal plane and a second principal plane that counters the first principal plane, a first insulator layer **24** formed on the first principal plane of the semiconductor substrate, a through hole **(portion where 22 sits)** that continuously extends from the second principal plane to the first principal plane through the inside the semiconductor substrate, including a main section substantially having a first diameter and extending from the second principal plane, and a tapered section **(top of 24)** having a second diameter that is larger than the first diameter near the first principal plane, a second insulator layer **(end portion of 22)** that covers a side wall face of the through holes, and a thin-film circuit **32** formed on the first insulator layer.

Art Unit: 2826

2. The thin-film circuit substrate as claimed in claim 1, Chu et al.'s first insulator layer is provided with an opening formed by an inner wall surface of the second insulator layer of the through holes.
4. The thin-film circuit as claimed in claim 1, Chu et al. show a side of the thin-film circuit substrate, which contacts the first insulation layer, is a flat face.
5. The thin-film circuit substrate as claimed in claim 2, Chu et al.'s show a concavity of a diameter larger than the opening on a side that touches the first insulator layer, corresponding to the through hole, is provided.
6. The thin-film circuit substrate as claimed in claim 2, Chu et al. show an insulator layer pattern that has a diameter larger than the openings, corresponding to the through hole, is provided between the thin--film circuit and the first insulation layer.

Claims 1, 2, 4 and 6 are rejected under 35 U.S.C. § 102(b) as being anticipated by Northrup et al. (U.S. Patent # 5,882,496).

1. Northrup et al. (figure 1) show a thin-film circuit substrate, comprising: a semiconductor substrate **10** having a first principal plane and a second principal plane that counters the first principal plane, a first insulator layer **14** formed on the first principal plane of the semiconductor substrate, a through hole **15** that continuously extends from the second principal plane to the first principal plane through the inside the semiconductor substrate, including a main section substantially having a first diameter and extending from the second principal plane, and a tapered section (**along 11**) having a second diameter that is larger than the first diameter near the first principal plane, a second insulator layer **16** that covers a side wall face of the through holes, and a thin-film circuit (inherent in the contact plate, see column 3, lines 30-39) formed on the first insulator layer.
2. The thin-film circuit substrate as claimed in claim 1, Northrup et al.'s first insulator layer is provided with an opening formed by an inner wall surface of the second insulator layer of the through holes.
4. The thin-film circuit as claimed in claim 1, Northrup et al. shows a side of the thin-film circuit substrate, which contacts the first insulation layer, is a flat face.
6. The thin-film circuit substrate as claimed in claim 2, wherein an insulator layer **14** pattern that has a diameter larger than the openings, corresponding to the through hole, is provided between the thin--film circuit and the first insulation layer.

Art Unit: 2826

The listed references are cited as of interest to this application, but not applied at this time.

Field of Search	Date
U.S. Class and subclass: 257/758,700,701,774,773,698,730	7/13/03
Other Documentation: foreign patents and literature in 257/758,700,701,774,773,698,730	7/13/03
Electronic data base(s): U.S. Patents EAST	7/13/03

Papers related to this application may be submitted to Technology Center 2800 by facsimile transmission. Papers should be faxed to Technology Center 2800 via the Technology Center 2800 Fax center located in Crystal Plaza 4-5B15. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center 2800 Fax Center number is (703) 308-7722 or 24. Only Papers related to Technology Center 2800 APPLICATIONS SHOULD BE FAXED to the GROUP 2800 FAX CENTER.

Any inquiry concerning this communication or any earlier communication from the examiner should be directed to ***Examiner Alexander Williams*** whose telephone number is ***(703) 308-4863***.

Any inquiry of a general nature or relating to the status of this application should be directed to the ***Technology Center 2800 receptionist*** whose telephone number is ***(703) 308-0956***.

7/14/03



Primary Patent Examiner
Alexander O. Williams